

**BEST AVAILABLE COPY****PATENT****REMARKS**

Claims 1-47 are pending in the present application. In the above amendments, claims 44 and 47 have been amended

Applicants respectfully respond to this Office Action.

***Claim Rejections – 35 USC § 103***

Claims 27-31 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bae (Bae et al.; US Patent No. 5,832,387 A) in view of Nystrom (Nystrom et al.; US Patent No. 6,334,058 B1).

Applicants' claims 27-31 and 39 are patentable over Bae combined with Nystrom because Bae combined with Nystrom does not teach every element of Applicants' claims. Specifically, Applicants' claim have the element "determining an excess spectral efficiency based in part on the transmit power allocated to the transmission channels." Neither Bae alone nor combined with Nystrom teach this feature. The Examiner states in the rejection that "where if the transmission limit is exceeded, the spectral efficiency does, too.) Applicants', however, are claiming a method which determines the excess spectral efficiency based in part on the transmit power. As described, for example, in paragraphs [1035]-[1038] of Applicants' specification as originally filed, the excess spectral efficiency may be a function of more variables than the transmit power. Therefore, the spectral efficiency is not equivalent to the transmit power, and Applicants claims are patentable over Bae combined with Nystrom

Claims 44 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bai in view of Onggosanusi (Onggosanusi et al.; US Pub. No. 2003/0139194 A1) and further in view of Nystrom.

Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bae in view of Onggosanusi, further in view of Nystrom, and further in view of Boleskei (Boleskei et al.; US Patent No. 6,442,214 B1).

Applicants' amend claims 44-47 to include features of claim 1. Specifically, Applicants' amend these claim to include the features "determining a total excess transmit power for all transmission channels reallocated with revised amounts of transmit power; and performing the defining, determining, allocating, identifying, and reallocating for one or more iterations, wherein the set of transmission channels for a first iteration includes the plurality of transmission

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channels and for each subsequent iteration includes transmission channels not in the saturation region, and wherein the total transmit power available for each subsequent iteration includes the total excess transmit power determined in a current iteration. These features are not recited by Bae combined with Onggosanusi, or by Bae combined with Nystrom, Onggosanusi, and Boleskei. Therefore, Applicants' claims 44-47 are patentable over the cited references.

### *Allowable Subject Matter*

Applicants gratefully acknowledge that claims 1-26, 32-38 and 40-43 are in a position for allowance.

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## CONCLUSION

In light of the amendments contained herein, Applicants submit that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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By: 

Rupit Patel, Reg. No. 53,441  
(858) 651-7435

QUALCOMM Incorporated  
5775 Morehouse Drive  
San Diego, California 92121  
Telephone: (858) 658-5787  
Facsimile: (858) 658-2502

Attorney Docket No.: 020038  
Customer No.: 23696